MISR 3320: Intelligent Systems Analysis

Rio Grande College of Business

Summer 2025

Faculty Information

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Office Hours: Mondays & Wednesdays, 2:00 PM - 4:00 PM (via Zoom or by appointment)

Course Description

This course provides a comprehensive introduction for junior-level students to the System Development Life Cycle (SDLC), with a focus on analyzing and designing intelligent information systems. Students will learn to document and evaluate current systems, map data flows, and design effective data structures, inputs, and outputs. Foundational techniques such as use-case modeling, entity-relationship diagrams, data modeling, and process modeling will be taught using real-world examples. The course also introduces key intelligent systems concepts including decision support, rule-based logic, and automation. Through case studies, systems analysis tools, and hands-on projects, students will gain practical experience in identifying business requirements and designing solutions that enhance organizational efficiency and support design thinking.

Course Materials

Primary Textbook: Gallaugher, J. (2025). *Information systems: A manager's guide to harnessing technology v10.1.* Flatworld. ISBN: 979-8-88794-635-1

Optional Introduction to Intelligent Systems Reading:
Negnevitsky, M. (2005). *Artificial Intelligence: A Guide to Intelligent Systems* (abridged excerpts focusing on rule-based systems and decision support).

Program Student Learning Outcomes

- **PSLO.1**: Analyze and solve business problems using fundamental principles across major business functions: Students will use structured modeling and intelligent system analysis techniques to identify business problems and propose system-based solutions.
- **PSLO.2**: Communicate business information through written, oral, and other delivery methods: Students will present intelligent system designs, write technical documentation, and engage in peer discussion to articulate system rationale.
- **PSLO.3**: Identify and understand ethical and social responsibility issues in business: Ethical implications of intelligent system automation, data handling, and AI decision-making will be discussed through case analysis.

Course Student Learning Outcomes

By the end of this course, students will be able to:

1. Identify and describe the phases of the System Development Life Cycle (SDLC).
2. Analyze and model simple business processes using structured techniques.
3. Apply basic tools like use-case diagrams, data flow diagrams, and ER models.
4. Understand how intelligent information systems such as decision support and automation enhance business operations.
5. Communicate intelligent system analysis findings through written documentation and presentations.
6. Collaborate in project teams to develop basic intelligent system design proposals.

Marketable Skills

1. Students will apply the principles of business to the management of existing businesses or the creation of new businesses, including the development of intelligent systems.
2. Students will use appropriate information from research and analysis to make informed decisions using analytical tools.

3. Students will be able to write business correspondence including letters, emails, reports, and resumes, and clearly communicate technical and business information.
4. Students will be able to make effective oral presentations to both professional and general audiences.

Course Assignments and Grading

Overview of Required Assignments	*% of Final Grade*
Case Study Analyses (Zara, Amazon, etc.)	20%
Intelligent System Modeling Projects	30%
Weekly Discussions & Participation	20%
Final Intelligent System Design Project	30%
TOTAL	**100%**

Late Assignment Statement:

Late assignments are subject to a 10% deduction per day unless prior approval is granted.

Assignment Title: Weekly Discussion and Participation (20% of Final Grade)

Description:
Students are expected to engage in weekly online and in-class discussions, participate in collaborative exercises, and contribute to peer feedback. These activities help reinforce course concepts and develop communication and critical thinking skills.

Assignment Title: Case Study Analyses (20% of Final Grade)

Description:
Students will analyze real-world case studies (e.g., Zara, Amazon, Facebook) and assess how intelligent systems contribute to strategic advantage and operational efficiency. Each case will be paired with guided questions and submitted as a 1–2 page analysis.

Assignment Title: Intelligent System Modeling Projects (30% of Final Grade)

Description:
These assignments will span Modules 2–4 and involve step-by-step modeling tasks including use-case diagrams, data flow diagrams (DFDs), and entity relationship diagrams (ERDs). These projects scaffold toward the final design project and help students visualize business systems.

Assignment Title: Final Intelligent System Design Project (30% of Final Grade)

Description:
The project requires students to propose a basic intelligent system design to solve a business problem. Students will compile models, design rationale, and documentation into a final submission. This project can be completed individually or in pairs.

Course Schedule (6-Week Summer Session: May 28 – July 3, 2025)

Module	Topics	Readings	What You Need to Do
Module 1 (May 28–31)	Introduction to Intelligent Systems & the System Development Life Cycle (SDLC)	Gallaugher Chapters 1–2	📢 **Discussion:** Introduce Yourself (Tell us your name, major, goals, etc.) 💬 **Discussion:** What Is an Intelligent System? (Post your thoughts and respond to a classmate) 📄 **Case Study Analysis 1:** Zara (Read about Zara in the textbook and answer specific analysis questions in 1–2 pages) 🛠️ **Modeling Project Task:** Process Mapping of a Real-World System (Use a flowchart to show how information moves through a simple business process)

Module 2 (June 2–6)	Use-Case Modeling, Data Flow Diagrams (DFDs), and Entity Relationship Diagrams (ERDs)	Gallaugher Chapters 3–4	💬 **Discussion:** Review a classmate's use-case scenario and give feedback 📄 **Case Study Analysis 2:** Amazon (How Amazon uses systems to scale and automate—1–2 page write-up) 🛠️ **Modeling Project 1:** Submit a Use-Case Diagram and DFD Draft (based on a basic business scenario)
Module 3 (June 9–13)	Process Modeling, SDLC Transitions, Agile vs Waterfall	Gallaugher Chapters 5–6	💬 **Discussion:** Would You Use Agile or Waterfall for Your Project? Why? 📄 **Case Study Analysis 3:** Facebook (Analyze Facebook's intelligent systems—focus on user interaction and platform logic) 🛠️ **Modeling Project 2:** Full Process Model and ERD (based on feedback and previous drafts)
Module 4 (June 16–20)	Introduction to Intelligent Systems, Rule-Based Logic, Decision Support	Gallaugher Chapter 7 and Negnevitsky (excerpt)	💬 **Discussion:** Ethical Concerns in Automated Decision-Making (Reflect on examples and concerns) 📝 **Assignment:** Design a Rule-Based Logic Example (Use a rule table or flowchart to show how decisions are made)
Module 5 (June 23–27)	Workflow Automation, Final Project Check-In	Gallaugher Chapters 8, 9-10	💬 **Discussion:** How Can Automation Improve Workflow Efficiency? 🧩 **Final Project Checkpoint:** Submit your rough draft or visual outline (includes diagrams and design rationale)
Module 6 (June 30 – July 3)	Final Testing, Feedback, and Presentations	Engage with students	💬 **Discussion:** Reflect on Your Learning: What Did You Learn About Intelligent Systems?

			🎓 **Final Project Submission:** Turn in your Final Intelligent System Design Project. This should be a fully documented and visualized solution to a business problem using the tools and concepts you've learned. (May be completed individually or in pairs.)

ADA Statement

SRSU Accessibility Services. Sul Ross State University (SRSU) is committed to equal access in compliance with the Americans with Disabilities Act of 1973. It is SRSU policy to provide reasonable accommodations to students with documented disabilities. It is the student's responsibility to initiate a request each semester for each class. Students seeking accessibility/accommodations services must contact Mrs. Mary Schwartze Grisham, LPC, SRSU's Accessibility Services Director or Ronnie Harris, LPC, Counselor, at 432-837-8203 or email mschwartze@sulross.edu or ronnie.harris@sulross.edu. RGC students can also contact Alejandra Valdez, at 830-758-5006 or email alejandra.valdez@sulross.edu. Our office is located on the first floor of Ferguson Hall, room 112, and our mailing address is P.O. Box C122, Sul Ross State University, Alpine. Texas, 79832.

Student Responsibilities Statement

All full-time and part-time students are responsible for familiarizing themselves with the Student Handbook and the Undergraduate & Graduate Catalog and for abiding by the University rules and regulations. Additionally, students are responsible for checking their Sul Ross email as an official form of communication from the university. Every student is expected to obey all federal, state and local laws and is expected to familiarize themselves with the requirements of such laws.

SRSU Distance Education Statement

Students enrolled in distance education courses have equal access to the university's academic support services, such as library resources, online databases, and instructional technology support. For more information about accessing these resources, visit the SRSU website.

Students should correspond using Sul Ross email accounts and submit online assignments through Blackboard, which requires a secure login. Students enrolled in distance education courses at Sul Ross are expected to adhere to all policies pertaining to academic honesty and appropriate student conduct, as described in the student handbook. Students in web-based courses must maintain appropriate equipment and software, according to the needs and

requirements of the course, as outlined on the SRSU website. Directions for filing a student complaint are located in the student handbook.

Counseling

Sul Ross has partnered with TimelyCare where all SR students will have access to nine free counseling sessions. You can learn more about this 24/7/365 support by visiting Timelycare/SRSU. The SR Counseling and Accessibility Services office will continue to offer in-person counseling in Ferguson Hall room 112 (Alpine campus), and telehealth Zoom sessions for remote students and RGC students.

Libraries

The Bryan Wildenthal Memorial Library and Archives of the Big Bend in Alpine offer FREE resources and services to the entire SRSU community. Access and borrow books, articles, and more by visiting the library's website, library.sulross.edu/. Off-campus access requires logging in with your LoboID and password. Librarians are a tremendous resource for your coursework and can be reached in person, by email (srsulibrary@sulross.edu), or by phone (432-837-8123).

No matter where you are based, public libraries and many academic and special libraries welcome the general public into their spaces for study. SRSU TexShare Cardholders can access additional services and resources at various libraries across Texas. Learn more about the TexShare program by visiting library.sulross.edu/find-and-borrow/texshare/ or ask a librarian by emailing srsulibrary@sulross.edu.

Mike Fernandez, SRSU Librarian, is based in Eagle Pass (Building D-129) to offer specialized library services to students, faculty, and staff. Utilize free services such as InterLibrary Loan (ILL), ScanIt, and Direct Mail to get materials delivered to you at home or via email.

Academic Integrity

Students in this class are expected to demonstrate scholarly behavior and academic honesty in the use of intellectual property. Students should submit work that is their own and avoid the temptation to engage in behaviors that violate academic integrity, such as turning in work as original that was used in whole or part for another course and/or professor; turning in another person's work as one's own; copying from professional works or internet sites without citation; collaborating on a course assignment, examination, or quiz when collaboration is forbidden. Students should also avoid using open AI sources ***unless permission is expressly given*** for an assignment or course. Violations of academic integrity can result in failing assignments, failing a class, and/or more serious university consequences. These behaviors also erode the value of college degrees and higher education overall.

Classroom Climate of Respect

Importantly, this class will foster free expression, critical investigation, and the open discussion of ideas. This means that all of us must help create and sustain an atmosphere of tolerance, civility, and respect for the viewpoints of others. Similarly, we must all learn how to probe, oppose and disagree without resorting to tactics of intimidation, harassment, or personal attack. No one is entitled to harass, belittle, or discriminate against another on the basis of race, religion, ethnicity, age, gender, national origin, or sexual preference. Still, we will not be silenced by the difficulty of fruitfully discussing politically sensitive issues.

Supportive Statement

I aim to create a learning environment for my students that supports various perspectives and experiences. I understand that the recent pandemic, economic disparity, and health concerns, or even unexpected life events may impact the conditions necessary for you to succeed. My commitment is to be there for you and help you meet the learning objectives of this course. I do this to demonstrate my commitment to you and to the mission of Sul Ross State University to create a supportive environment and care for the whole student as part of the Sul Ross Familia. If you feel like your performance in the class is being impacted by your experiences outside of class, please don’t hesitate to come and talk with me. I want to be a resource for you.